

**BY ORDER OF THE COMMANDER  
AIR FORCE SPACE COMMAND**



**AIR FORCE SPACE COMMAND  
INSTRUCTION 16-101**

**2 FEBRUARY 1998**

**Operations Support**

**MODELING AND SIMULATION (M&S)  
MANAGEMENT**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFPD16-10, Modeling and Simulation (M&S) Management, January 1995. It establishes responsibilities, procedures, and reporting requirements for AFSPC, and applies to all AFSPC organizations (HQ AFSPC, subordinate units, Numbered Air Forces, Wings and Groups) that have Modeling, Simulation, & Analyses (MS&A) requirements or execution responsibilities. The purpose of this instruction is to formulate Command priorities for MS&A requirements and to ensure Command MS&A activities comply with those priorities. This instruction does not apply to Air Force Reserve or Air National Guard units. Units are authorized to publish supplements.

**SUMMARY OF REVISIONS**

The revision of this publication is to meet the format standards required by Air Force. No content material has changed. Some required format changes have been made to allow for the conversion process.

**1. References:**

- 1.1. DoDD5000.59, DoD Modeling and Simulation (M&S) Management.
- 1.2. DoDD8320.1, DoD Data Administration.
- 1.3. DoDD8000.1, Defense Information Management (IM) Program.
- 1.4. DoDD 8020.1M, Functional Process Improvement.
- 1.5. AFPD63-4, Contracted Advisory and Assistance Services.
- 1.6. AFI63-401, Contracted Advisory and Assistance Services.
- 1.7. AFI33-102, C4I Capabilities Planning Process.
- 1.8. AFI33-110, Air Force Data Administration.

## 2. Terms Explained:

**2.1. Analysis** - Organized assessments/evaluations in support of policy development, decisionmaking, management, or administration. Includes studies in support of R&D activities. Also includes requirements for models, methodologies, and related software supporting studies, analysis, or evaluations.

**2.2. OPR** - An individual within the AFSPC organization designated to provide information and management on the individual MS&A activity.

**2.3. Model** - A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

**2.4. MS&A Activity** - Any effort involving MS&A tasked, requested, directed, sponsored, resourced, or accomplished, by the Command.

**2.5. Simulation** - A method of implementing a model over time. Also a technique for testing, analysis, or training in which real-world systems are used, or where real-world and conceptual systems are reproduced by a model.

**3. General.** MS&A supports the warfighter through operations, testing, training, exercises and war-games, and decision support. This support may be provided by Air Force resources, U.S. government resources, contracts, or a combination of all three.

## 4. Responsibilities:

**4.1. HQ AFSPC will operate a MS&A Board.** This Board is responsible for approving MS&A activities within the command. AFSPC Organizations are not authorized to task, accept, request, direct, sponsor, resource, or accomplish MS&A activities except those approved by the Board.

4.1.1. The membership of the MS&A Board will be the Deputy Directors of the Plans, Operations, Intelligence, Logistics, Communications, and Requirements Directorates and the Vice Commander of the Space Warfare Center.

4.1.2. In addition to the membership, there will be advisors from Financial Management and AFSPC Numbered Air Forces.

4.1.3. The Deputy Director of Plans chairs the Board.

4.1.4. The AFSPC Vice Commander approves all actions and recommendations of the Board.

### 4.2. Analysis Division (HQ AFSPC/XPA):

4.2.1. Acts as the Command focal point for MS&A policy, guidance and funding issues, and will be the Board secretary.

4.2.2. Ensures AFSPC-owned or operated models and simulations are accredited according to established policy for the intended purpose in all studies, analyses (e.g., Cost and Operational Effectiveness Analyses, Mission Area Analyses, et cetera), training exercises, and other uses.

4.2.3. Explores opportunities for joint and cooperative MS&A development with other DoD components to avoid duplication and increase synergism between efforts.

4.2.4. Maintains an inventory listing of active MS&A activities in the Command as approved by the Board. The inventory will include past and current approved proposals in paragraph 5.2.1. and the minutes in paragraph 5.4.

4.2.5. Represents the Command on MS&A policy, guidance and funding issues to external organizations to include HQ USAF/XOM.

**4.3. Space Warfare Center (SWC).** SWC is the executive agent for planning, managing, and executing MS&A activities approved by the MS&A Board as indicated in paragraph 5.4.

**4.4. AFSPC Organization.** AFSPC organization with MS&A requirements will appoint an Office of Primary Responsibility (OPR), for preparing and maintaining documentation. The office symbol, name, phone number, and mailing address of the OPR will be provided to HQ AFSPC/XPA, 150 Vandenberg St. Suite 1105, Peterson AFB, CO 80914.

**4.5. Office of Primary Responsibility (OPR):**

4.5.1. Provides inputs to HQ AFSPC/XPA according to paragraphs 5. and 6. Ensures the requirement for the MS&A activity remains valid.

**5. Procedures:**

5.1. The Board will meet as required but no less than twice annually upon notification of the chair.

5.2. Prior to the meeting, XPA:

5.2.1. Will send out a Command-wide call for new MS&A proposals to be considered by the Board. New proposals will have the following information for the current and next fiscal year:

5.2.1.1. Identification information of the AFSPC organization and OPR.

5.2.1.2. Purpose/Justification.

5.2.1.3. Users (customers).

5.2.1.4. Alternatives rejected (e.g. other available M&S). Include the applicable information sources queried and reasons that no existing scientific, technical or management report could fulfill the requirement.

5.2.1.5. Program plan to include schedule, resources required (manpower, funding, hardware, software, et cetera), proposed source of those resources, any resource shortfalls, end product, and other pertinent information.

5.2.2. Will direct AFSPC organizations with previously approved, or ongoing MS&A projects, or level of effort, to provide a status update (to include progress made and continued relevance) when so requested by the Board. The Board may opt to review periodically these activities to ensure the Command's expenditure of MS&A resources is aligned with overall Command priorities.

5.2.3. Schedules the Board meeting and provides advance information and recommendations on proposals to members and advisors.

5.3. During the meeting OPRs will be given the opportunity to present their proposals to the Board. If unable to do so, XPA will present on behalf of the OPR. The Board will consider new projects and previously approved projects which the AFSPC organization desires to continue. The Board will establish a Command-wide priority list of new and previously approved proposals.

5.4. After the meeting, XPA will draft minutes of the Board meeting and obtain HQ AFSPC/CV approval to publish. Approved minutes will be distributed to members, advisors, and OPRs.

5.5. SWC will assume responsibility for the execution of the approved and funded projects upon receipt of the minutes (unless otherwise directed by the Board). SWC:

5.5.1. Develops, in conjunction with the OPR, a detailed MS&A plan for each approved new proposal containing all the information necessary to execute the activity (specifications, timelines, tasks et cetera). Also included in this plan will be the program risks, verification validation and accreditation plan, and actions to comply with AFPD16-10, paragraphs 3.3.6., 3.3.7., 4., and 5.

5.5.1.1. Determines whether adequate resources were identified in the original proposal to execute the plan. If not, returns the proposal to XPA and the OPR for reformulation and subsequent reconsideration by the MS&A Board.

5.5.1.2. Determines the best method to complete the project -- i.e., in-house, product center support, or contract.

5.5.2. Ensures all approved MS&A activities are completed unless otherwise canceled by the Board.

5.5.3. Terminates previously approved projects which the Board discontinued.

## **6. Reports:**

6.1. HQ AFSPC/XPA will provide Command inputs to the Air Force M&S Master Plan and Investment Plan to HQ USAF/XOM. The inputs will be approved by the Deputy Director of Plans according to the priorities established through the Board process.

6.2. SWC will provide a final report on each MS&A activity completed.

6.3. HQ AFSPC/XPA will prepare an annual report on key M&S applications with Verification, Validation, and Accreditation activities and plans to HQ USAF/XOM. The MS&A Board will review and approve the report. The reporting requirements in this directive is licensed under RCS: HAF-XOM(A) 9494.

6.4. HQ AFSPC/XPA will provide information on M&S applications, standards and databases to HQ USAF/XOM for inclusion in the DoD M&S Information Analysis Center.

JOHN S. BOONE, Brig Gen, USAF  
Director of Plans & Programs